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Dissertation on diagnosis

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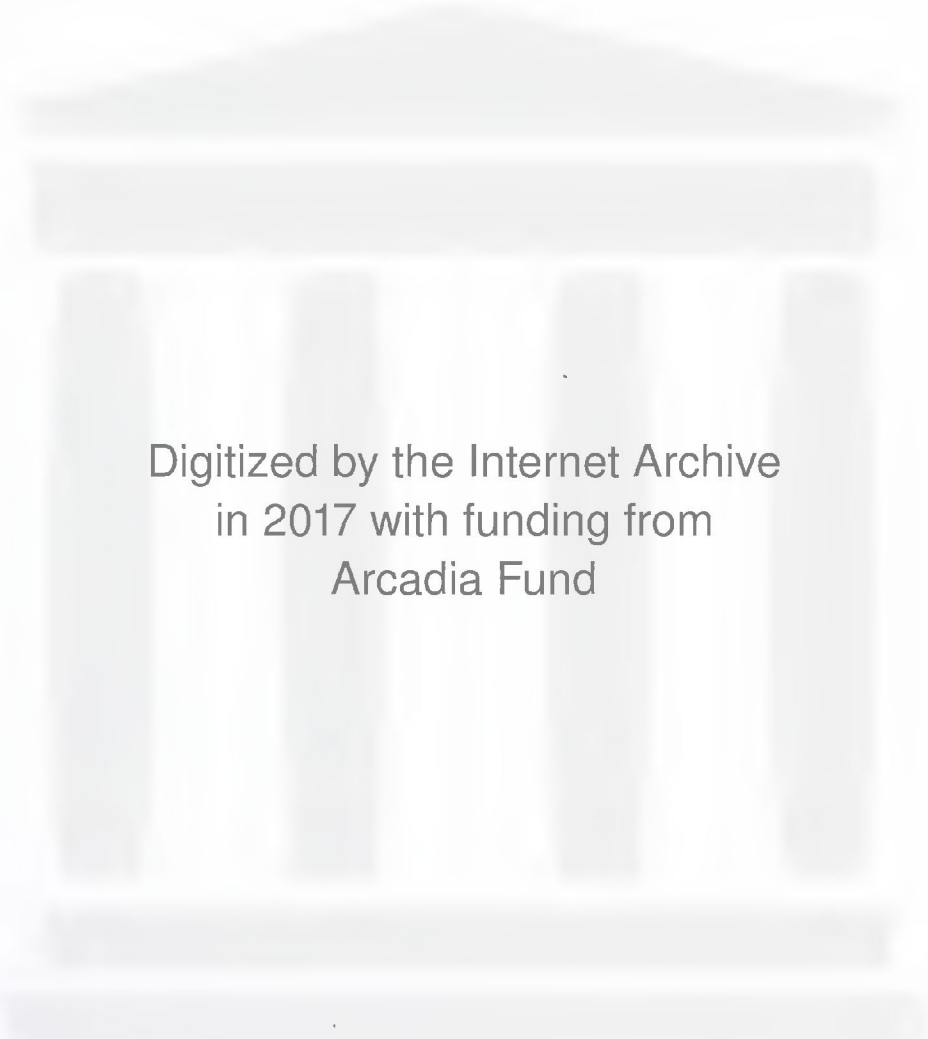

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Diagnosis

To alleviate human suffering by arresting the ravages of disease – To protract the brief period of human existence and thereby increase the sum total of human happiness – in fine to produce and perpetuate that harmonious action of all the organs of the system in which consists the most perfect health is the benevolent object & study of the physician.

Since the fabled days of Æsculapius it has not wanted its disciples. And as the intelligent student of the 19th century, from mid the luminosity of a dozen elaborate sciences, peers back through the dim vista of time and traces the history of the healing art his mind is excited by varied emotions according as he regards it in its different aspects. In primitive mythological ages, medicine was but an element in the hands of the priesthood of that superstition which then enslaved the world. Practised only by the priests and always in connection with their religious rites its efficacy was always associated in the minds of the people with a supernatural agency. Thus invested with a sacred character though not by its sacred keepers improved it remained for a time but a useless appendage to the ponderous system of fabulous philosophy, which then so long and so wonderfully shrouded truth

in darkness and enchained the struggles of human wisdom. Medicine then in its widest extent comprised only the application of a few simple herbs, the remedial powers of which were most religiously ascribed to a preternatural influence. At a later and more favorable period when mental activity had diffused itself among the people, and priests did not usurp all the thinking, it took a better footing, it gained a broader basis and under the cherishing influence of the schools it assumed an honorable and responsible position among the speculative philosophies of the times. But yet its growth was slow. For this there were obvious and potent reasons. The subject was vast in its field of inquiry. It asked of Nature her most mysterious and secret operations. The collateral auxillary sciences were yet undeveloped - much of them unknown - and last though not least, popular error ignorance & prejudice, has ever reared up a high barrier to its advancement, and even now this is unremoved nay undiminished. In view of such opposing difficulties, it is not so much a matter of wonder that our science has advanced tardily, as that it has issued at all from the darkness and gloom in which it was enveloped - that it has risen superior to every obstacle, not always by removing them for many still exist with unabated force, but in spite of them. From this brief retrospect it is evident that the progress of medical science has not been

Continued and uniform — but necessarily irregular - convulsive - now stationary & stagnant and anon making a long and vigorous stride onward as some mighty mind, to whose human frailty has been imparted a spark of Divinity, has appeared upon the great drama of the world, and rushing across the field has made his mark upon his age and given an impetus to our science that will be felt throughout all time. Such a mind was that of the accurate and practical Hippocrates. He was the first to relieve medicine of the trammels of superstition and the delusions of philosophy. He appears to have been a man of strong, sound, judgement; and eminently practical. He did not follow blindly and contentedly in the footsteps of his predecessors, but standing aloof, where he could take a clear comprehensive view he watched with keen discernment men's practices and their results, and detecting truth from error with consummate skill, he opposed the one by developing the other. Conducting his professional researches upon the principles of the Baconian philosophy he arrived at conclusions which the experience of more than 2000 years have but confirmed. Nay in some instances his penetrating judgement outstripped succeading ages, and we now only begin to recognise the truths which he discovered. (vide Anasarca) Such important additions did he make to the medical art that he won for himself the well merited Title, the Father of Medicine. From these few reflections

upon the history and progress of Medicine, the question suggests itself, upon what does the advancement of the Science mostly depend? To what does Hippocrates and other of those great minds who have mostly contributed to it owe their success and their fame?

Every Science and every art has some particular principle which is the keystone to the whole fabric, which supports and maintains the other parts, all in their respective places; which other parts though they are just as essential as the keystone, yet without the keystone would be but a confused mass having neither fashion nor form. Now the keystone to the Medical Science methinks is Diagnosis. Accurate - correct - unmistakable diagnosis. A perfect knowledge of the existing pathological condition in any given case, should certainly precede any attempt to improve that condition

The laws which govern all human reasoning are just as true in medicine as in all other departments of human action. The skillful millwright does not resort to his shop to repair a damaged mill until he has thoroughly examined the machinery and discovered the defect. The watchmaker first detects the derangement of the works before he attempts their adjustment. How much more than should the physician understand thoroughly the much more complicated structure of the human system when deranged, before he resorts to his drug-shop to remedy an

abnormal condition the exact nature of which he is utterly ignorant of. Diagnosis then as its name implies is one of the most important branches of pathology. The word means to distinguish and as used in medicine to distinguish diseases.

There are two conditions in which man can exist. Or according to Prof Liebig's theory, there are two forces acting upon animated nature. the one a vital force which predominates in health, and is conservative: the other physical which predominates in disease and is destructive. In other words, so long as the energy of the vital endowment is undiminished. and manifests itself in the harmonious action of all the various functions and structures with which it is associated, so that all the operations of the body are duly and steadily performed that is the condition of health. But when the energies of this vital principle are impaired, or excited or in any way changed, either in part, or the whole of the various functions in which they manifest themselves, such aberration from the natural condition constitutes disease. In either of these states then man may maintain life. In a healthy or physiological or in a diseased or pathological state.

The healthy functions of life form the study of the physiologist; whilst the description of the organs performing them belongs to the Anatomist. It is with the derangements of both functions

and organs that the pathologist and practitioner are chiefly concerned.

To understand the exact derangement which exists in any given case is to form a diagnosis. The sources from which a diagnosis is derived are universally understood to be the History of the case the Symptoms, Effects of Remedies, and morbid Anatomy. To discover, and accurately distinguish from these sources the seat, nature extent and progress of the morbid lesions, being essential to the establishment of a rational and successful plan of treatment.

History. From the History the diagnosis is greatly aided; as it includes the causes, course and duration the cue to other inquiries is easily taken. A knowledge of it is chiefly serviceable in narrowing down the field of investigation, and directing the attention in the proper channel. A diagnosis it is true can seldom be fully formed from the history alone; but if the history cannot always tell what the disease is, it may indicate what it is not, and thus indirectly though quite as certainly guide to what it is.

From its congruity or incongruity with the supposed disease a negative result may often be found. But that history may be most serviceable as an element in diagnosis it is essential that the practitioner be practically familiar with Etiology. Most diseases have two causes, an exciting and a predisposing cause.

The exciting cause always exists however slight or trivial it

may be. For we cannot conceive of any action or any change in action taking place without an adequate cause to produce it. The predisposing cause does not always exist. There are some exciting causes which are so powerful that they produce when applied the same effect – the same disease independent of any predisposing cause; such are many noxious substances – certain contagions &c. A knowledge of such causes at once reveals the disease. But there are many other exciting causes whose effects are seemingly regulated by the predisposing cause.

Now this latter cause cannot always be understood, but its existence is inferred from the fact that where several persons are exposed to precisely the same exciting cause, they will each be affected by it in different ways; and this diverse result is attributed to what is termed the predisposing cause, that is some particular diathesis or condition of health peculiar to each person.

Those predisposing causes which are best understood, are peculiarities of Temperament and of Figure, Hereditary tendency to certain diseases. Sex. Age. The Epochs of Dentition. Puberty, and of the cessation of the Menses, and finally different Climates.

On the effect of Temperament, no rules can be relied on. Much that has been written is more the result of theory than of observation.

The diseases to which certain Figures are supposed to predispose to

are but little better established; though it is believed that people with short thick necks are more liable to apoplexy, and those with narrow flat chests are inclined to phthisis. Yet both of those assertions have been denied. In regard to hereditary disease; no fact in medicine is more fully confirmed than that certain diseases are transmitted from parent to offspring. I need hardly instance consumption, Scrofula syphilis and the like. But others such as cataract of the eye, deafness, emphysema, gout apoplexy and hemorrhage from slight causes are by many considered as hereditary. But these assertions are in dispute and from the difficulties of the question will always remain so.

Of sex, it is sufficient to say that independent of diseases belonging exclusively to the genital organs, males are found to be more subject to gout, stone, rheumatism, and acute thoracic complaints; females to chorea, hysteria and disorders of the nervous system. But these distinctions can be scarcely touched to in diagnosis, as each sex are subject to them, only in different proportions.

Age exerts an influence upon disease in ways that can sometimes be understood and sometimes not. It is know that infants are more subject to diseases of the mesenteric glands; Children to scrofulous affections; the middle aged to phthisis; and the aged to cancer.

Climate. There can be no doubt that its influence is a powerful agent both for the production or removal of disease. The fact is well known that inhabitants of hot countries are subject to diseases of the liver and digestive apparatus, while those of cold regions are more liable to thoracic inflammations.

Symptoms. But it is upon the symptoms of disease, or changes of function, the second source of diagnosis, that the practitioner mostly relies. These have been happily styled the language of the suffering organs. And unless this language be understood, and its true meaning comprehended, it is utterly impossible to determine the precise condition of the affected organs, and equally vain to attempt their restoration to health.

The most intimate familiarity with symptoms unless considered as signs and indices of internal derangement, would be as completely useless as practically, as the ability to pronounce the words of a foreign tongue to which you can attach no meaning. They are signs intelligible to him who understands them, but blanks or worse than blanks, sources of deception, to others. The object of the study of symptoms then is to establish distinct associations between the symptom or the sign and thing signified- between the deranged function and the morbid condition. Every symptom that is observed must be referred to that particular organ by whose lesion it would be produced,

and its importance settled by a careful investigation of the nature and seat of the morbid action upon which such lesion is dependent. Due attention must at the same time be given to the various modifications that occur, as the increase, the diminution of symptoms, the departure of those first noted, and the succession of new ones, as well as the order of succession.

In the living patient all knowledge of disease of internal organs is dependent upon a proper interpretation of the symptoms which they present. We can never see disease itself we can only see its symptoms and the whole science of pathology consists in the right understanding of them. They are any changes perceptible to the senses in any organ or function which is connected with morbific influence. Hence they are to be observed in almost every thing immediately connected with the patient; the expression of his countenance, attitude, condition of surface, and of the nervous system and the performance of functions &c. The limits of this paper will necessarily confine me to generalizations. To particularize diseases therefore more than is sufficient for illustration will not be expected.

The first object which strikes the attention of the physician on approaching his patient, is the expression of the countenance. This has been not inaptly called the physiognomy of disease. In many instances it affords at once important indications of the nature and seat of the disease. Independent of the changes of color resulting from the deranged functions

of the digestive and biliary organs or the peculiar condition of the cappillary circulation, as local congestion &c there is in almost every form of disease an expression of countenance peculiar to it, which is at once recognized by the observant and experienced physician. This is a branch of medical skill which it becomes every new fledged doctor to study. And no opportunity should be neglected to familiarize himself with this help to diagnosis.

Its importance was well understood so long ago as the times of Hippocrates and Celsus. The latter author observes. "Medicus neque in tenebris, neque a capite agri debet residere; sed illustri loco adversus eum; ut omnes notas, ex vultu quoque cubantis perspiciat" Lib III. cap 6.

I will briefly mention some of the more prominent Symptoms which appear in the face. An unnaturally flushed countenance indicates febrile or inflammatory action – a circumscribed spot upon the cheek denotes hectic. Paleness of the face, and general surface may be the result of loss of blood, it is also present during chills, nausea and syncope. In chlorosis and anasarca this paleness is combined with a peculiar waxen appearance. Imperfect arterialization of the blood gives to the countenance a livid leaden aspect. This is produced also by venous congestions. It occurs in organic diseases of the heart in Pneumonia Asphyxia and Apoplexy.

Eruptions on the skin indicate by their color and form the class to which they belong. The skin is usually hot in paroxysms of fever, and acute diseases, but in many chronic diseases in debilitated conditions, and in syncope it is cold. Excessive sweating is a symptom of weakness; it usually succeeds a paroxysm of intermittent fever, and attends hectic fever. Cold clammy sweats denote the moribund state. Chills and rigors mark the progress of certain important changes in inflammation, as suppuration and the invasion of new tissues. they frequently attend the beginning of diseases or their paroxysms.

The study of the attitude of patients is worthy of much attention The natural position of repose is upon the side with the limbs gently flexed. Variations from this not purposely assumed are symptomatic. The dorsal decubitus is indicative of muscular debility. Extreme dyspnea forces the patient to assume the erect position. Any position carefully taken and retained is the effect commonly of acute inflammation. Convulsions are attendant upon poisons, hysteria, Epilepsy, constipation, hooping cough, and the puerperal state.

The symptoms which denote lesions of the brain and nervous system, are not in the present state of our science so definite in their indications as lesion of other parts. They are chiefly headach

Mental derangement - Wakefulness - Palsy - Spasm & Coma. Many of these however if only of short duration would indicate only functional disorder, but if of long continuance would imply structural alteration. But after structural lesion is declared, it still remains a difficult and in many cases an impossible problem to define its exact nature and locality. For instance from Andral's Clinique it appears that paralysis may result from hemorrhage of the brain from atrophy - cancer - congestion or softening of that viscus, and also from, meningitis and cerebral disease. But still there are many symptoms belonging to the nervous system, which are so well understood that their indications may be relied on as general rules, to which there are few exceptions. Thus in paraplegia we may suspect disease or injury of the spinal cord. If there is palsy confined to any small portion of the body we may reasonably attribute it to disease of the nerves supplying that part. If the sensibility of the patient is impaired it is the posterior roots of the nerves that are affected, and the anterior roots if his power of motion is diminished or taken away. There is much reason to hope that more extended investigation and accurate research will yet bring to light new and more positive means of diagnosis in this department.

Other symptoms of disease are derived from altered functions of

the respiratory - the circulating - the digestive and the urinary systems. The respiratory and circulating systems are so intimately connected that much information is gained by studying them in reference to each other, as in Pneumonia. Their abnormal conditions may be observed in increased or diminished action both in regard to intensity and rapidity and in alterations from the proper relative action existing between them. The study of the signs belonging to these functions also includes percussion and auscultation. All the functional derangements of these and other systems are too numerous to obtain special notice in a paper of this kind. I pass them over then with the remark, that in every acute disease the functions generally, are more or less interrupted and altered and the particular description of those changes belongs rather to an extended work on pathology than to this article.

Remedies. We come now to consider the effects of remedies as a source of diagnosis. The most important perhaps is bloodletting. It is from the tolerance or intolerance of loss of blood in any given case that we derive aid in diagnosis. To illustrate, suppose a patient to complain of severe pain in the abdomen which is suspected to be inflammatory; if syncope is produced by the abstraction of a very small quantity of blood, it is certain the disease is not inflammatory, or if so must be treated by other means

than depletion. But the converse of this rule it should be remembered is liable to exceptions. There are occasionally found thin bloodless patients from whom by some peculiarity of constitution a great amount of blood may be abstracted without fainting though not without danger.

But there is another point of view in which bloodletting is diagnostic; when its effect is to relieve temporarily a single symptom, but which in a short time reappears in an aggravated form. This may be often seen in Chlorosis where the nervous head ache, and the hysterical pains in the left side, and under the left breast are mistaken for inflammatory action, and where the unwary practitioner, still further deceived by the frequency of the pulse is induced to open a vein, sometimes with almost fatal consequences; always increasing the morbid sensibility and the vascular irritability even where it may not hasten a fatal termination. In this as in some other diseases it should be remembered that the most acute pain is owing to a pathological condition directly the reverse of inflammatory, and that however frequent the pulse, it is no indication of bloodletting.

From these few remarks it will be seen that venaesection, although not diagnostic until it is performed for good or for evil, yet then it is useful as confirming or otherwise the diagnosis already supposed. The same kind

of aid in diagnosis is to be derived from the administration of many other remedies such as digitalis, antimony, mercury &c. It is not my purpose to illustrate each of these fully, but merely to remark the general principle that where a given set of symptoms constituting a disease has uniformly been relieved by a certain remedy, if on another occasion in supposed similar circumstances exactly, the administration of the same remedy is not followed by relief, a second examination of the symptoms will probably reveal that there is some one symptom modifying the case, not before detected or that the whole chain of symptoms had been entirely misinterpreted and the diagnosis consequently wrong. Again where the diagnosis is obscure or the symptoms are equally indicative of two diseases, as for instance Secondary Syphilis and some other affection, if the administration of the Bichloride of Mercury which is considered a specific for syphilis is followed by restoration to health, the remedy may be considered as diagnostic or at least as confirmatory. A more familiar illustration is, where headache, vertigo, heaviness &c. are removed by an emetic, the cause of the trouble may be fairly inferred to be in the digestive organs.

Morbid Anatomy Morbid Anatomy is the next and last source of Diagnosis which claims our attention. Our immediate patient it is true can only derive advantage from such knowledge as is to be obtained from the history and Symptoms which his complaint presents. But the history and symptoms are not the disease. They are only the story which tells us there is disease. Symptoms are but the expression of the disease - the disordered functions - disordered

by the morbid action or the organic lesion which is the real disease and which it is our object to ascertain and cure. Now the same combination of symptoms are always indicative of the same organic lesion, and vice versa the same organic lesion always produces the same symptoms – Consequently if the connection of cause and effect can be established between any given symptoms and the disease we have but to see the one to know exactly the other. As the expert geometrician from knowing three parts of a triangle can determine the other three. It is at once inferred from this view that the same remark is true of morbid anatomy that was made of symptoms, namely, that their whole value consists in their true and correct association. Post mortem dissections if considered abstractly are entirely worthless. They can be employed only as confirmations or correctives of clinical opinions. And in this way if made with caution, judgement and accuracy they tend more than any other species of investigation to the advancement and exactness of the medical science, and will if pursued with that zeal and enthusiasm with which it has of late years been prosecuted by the profession exalt it to a far higher degree of perfection than it has yet attained, and will prove the most efficient means of casting off the reproach of vacillation and doubt which clings however unjustly to the science of pathology. But the utmost caution is essential to the successful prosecution of these investigations. No fact should be considered established until it has been confirmed by numerous and repeated observations. Because the intermediate ~~effect~~ steps between cause and effect are often obscure, or entirely untraceable, and in complicated disease where many parts are attacked, and consequently many symptoms are existing there is great liability to confusion in

tracing each symptom to its own source. Besides symptoms are numerous complicated varying, and often transient, while the organic lesion as disclosed at the autopsy is a visible tangible fact. Nothing but the exercise of skillful observation and patient investigation can determine which of the symptoms appearing during life are to be considered as indicating the organic lesion which is found after death, and which are merely accidental. Again, many symptoms depend upon functional derangement altogether, and the scalpel of the pathologist reveals no structural change to account for them. Thus in Colic there may be no organic trouble; but the disease consists not in the cognizable symptom of pain but in the irregular and spasmodic performance of an internal function.

Thus have I briefly and imperfectly presented some of the leading principles of diagnosis. And I was led to the consideration of this subject from the conviction that there is nothing that so much distinguishes the truly well qualified Physician from the mere routinist, as the ability to diagnose with accuracy and confidence the cause, nature, and seat of disease. Such ability is only to be acquired by patient, well directed observation. It is upon a foundation of facts, not of theories, that the superstructure of Medical Science must stand. It is to the observation of facts that the moderns owe their superiority in every science to the ancients, and not in any degree to more logical reasoning or greater acumen. For while the high wrought speculations which have in succession ruled the world have crumbled away with the dust of their originators, the facts recorded two centuries before the Christian era, still recur in the daily walks of our profession precisely, as the Father of Medicine inscribed them upon his tablets. The world-renowned theories of Galen, Paracelsus, Van Helmont & Sylvius are now only rescued from

the Lethean stream by the curious and the antiquarian. No other destiny awaits those hypotheses which have more recently arisen and flourished. Brownism & Tullyism – Broussaisism and Hahnemannism with all the other isms alike distinguished for luxuriant fancy and poverty of facts, must descend the inevitable slope of oblivion; but the vast collections of truths established by the observation of nature are as immutable as herself.

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